Moreover, they can withstand strong winds without getting bent and broken because of their flexibility. The secret is that the space between plant knots is empty, and knots themselves are filled with tissue. This technology enables to create multi-story buildings in areas prone to earthquakes. A lot of Asian skyscrapers resembling ears of corn can be considered a vivid example of it.

Nowadays biologists and architects continue their cooperative work on introducing bionic approaches to architecture. One of the most ambitious projects connected with bionic is being built now in Shanghai. It is called "the Cyprus City", a giant tower 1 km high which design was inspired by a tree of the same name. The idea appeared in the beginning of the 1990s, but it took more than fifteen years to begin the building process. "The Lilipad City", a project by Vincent Callebaut, is another way to deal with lack of space for growing population. The architect believes that they will become reality by 2100, and also help to overcome a problem of the rising sea level.

In Ukraine there are still not much examples of bionic buildings. "The Wave House" in Odessa is an example of this. It is a private building designed by an architect Mykola Matiushenko which has become a tourist attraction since 2017. The structure of a house resembles a grapevine and is full of round and irregular shapes.

The main principles of bionic architecture are to use natural technology in engineering and design and to combine them with principles of eco-friendliness. Concerning growing ecological problems, this approach is one of current interest to modern architects.

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MAIN RISKS OF THE OIL AND GAS GROUP OF UKRAINE

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An independent risk management service was established at the Oil and Gas group Naftogaz in May 2016. The purpose of the office is to ensure that an effective risk management process and controls are in place to achieve strategic

goals of Naftogaz. The new formulated risk management framework and related regulatory documents are based on the International Standards. In February 2017, an initial risk assessment began at Naftogaz group. The first phase of the assessment ended in March 2017 and identified the material risks inherent in the Naftogaz group. The second phase of the initial risk assessment will result in a comprehensive initial risk assessment report for Naftogaz group. Going forward, Naftogaz group risk assessment will take place on a quarterly and annual basis, as well as in response to specific risk events. The key identified risks can cause serious adverse effects on production performance, cash flows, and the group's financial position.

Technical and operational delivery: the operations of Naftogaz significant health, safety and environmental hazards. The processes and chemicals heighten the potential for a major incident and multiple fatalities, environmental hazards, and loss of business assets. Mitigation measures include training, introducing modern methods of operations, diagnostics, reconstruction and modernization of existing facilities. Subsurface risks are result in uncertainty about the levels of hydrocarbons. These risks may lead to lower volumes of gas extracted and/or increased expenses for drilling and production, that leads to a deterioration of one of the key strategic goals of Naftogaz to preserve and increase exploration and production abilities. Ukrgazvydobuvannya has begun intensive upgrading of its equipment to reduce costs and improve the efficiency of drilling and gas extraction. Naftogaz group is considering various ways of raising funds for investment projects.

Markets: the group tries to attract additional loan proceeds on international financial markets at lower interest rates to cover for the cost of pumping natural gas to underground gas storage. There are two gas pipeline projects in progress today that would allow gas transportation from Russia to EU countries and Turkey while bypassing Ukraine: 1) The Turkish Stream project assumes gas transmission capacity of 31.5 bcm per year. 2) The Nord Stream 2 project assumes gas transmission capacity of 55 bcm per year. The company promotes the creation of integrated infrastructure and commercial gas space between Ukraine, Poland, Slovakia, Hungary and Romania.

Macroeconomics: Naftogaz group carries out its operations in Ukraine and its dependence on the foreign exchange risk is due mainly to the need to purchase natural gas from foreign suppliers. Naftogaz's ability to hedge the risk in the local market is limited due to the nature of the Ukrainian hedging market: 1) foreign exchange forwards market volume cannot meet the needs of the company and activity in the market may cause significant fluctuations of the national currency; 2) limitations of the legal and regulatory framework. Since the Law of Ukraine "On the natural gas market" entered into force, the company has independently established prices for industrial and commercial consumers that are not subject to PSO. Any increase of foreign exchange rates together with the local inflationary environment has the potential to seriously impact on the

population's purchasing power. Depending on the stabilization of the economic and political situation in the country, growing GDP, and government actions increasing household purchasing power, Naftogaz would be able to shift to a market-based approach to pricing and reduce the impact of risk.

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THE CHERNOBYL ACCIDENT, THE BIGGEST ENVIRONMNTAL DISASTER IN THE WORLD

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The Chernobyl disaster is a technogenic environmental and humanitarian disaster caused by two thermal explosions and the subsequent destruction of the fourth unit of the Chernobyl nuclear power plant located in Ukraine (the former USSR) on the night of April 26, 1986.

The destruction was explosive, the reactor was completely destroyed and a large amount of radioactive substances fell into the environment. Three hundred emissions of Hiroshima occurred. This event and the official reaction to it, demonstrated by Moscow, were one of the reasons for the collapse of the USSR.

The disaster is considered to be the largest in the history of nuclear energy both in terms of the number of victims and losses, as well as economic losses.

A radioactive cloud from the accident flew over the European part of the USSR, a large part of Europe, the eastern part of the USA. Approximately 60% of the radioactive substances have settled in Belarus. About 200,000 people were evacuated from pollution zones.

The Chernobyl accident became an event of great socio-political significance for the USSR and the world. This left a certain imprint on the investigation. The approach to the interpretation of the facts and circumstances of the accident has changed over time. However, there is still no consensus.

Initially, the government tried to hide the scale of the tragedy, but after reports from Sweden, where radioactive particles brought from the eastern part of the USSR were found at the Forsmark nuclear power plant, and estimates of the volume of infection, the evacuation of about 130,000 residents of the Kiev region from contaminated areas began. About 600,000 people, especially the liquidators of the disaster, experienced a radioactive damage. Around the Chernobyl nuclear power plant, a 30-kilometer exclusion zone has been created.